ABS ACTA BIOLOGICA SIBIRICA
A journal on the biodiversity of Siberia and the adjacent lands

Acta Biologica Sibirica 6: 33–42 (2020)
doi: 10.3897/abs.6.e53095
https://abs.pensoft.net

RESEARCH ARTICLE

Additional records of osmiine bees (Hymenoptera: Megachilidae: Osmiini) from Azerbaijan

Maxim Yu. Proshchalykin[1], Mahir M. Maharramov[2]

1 *Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far East Branch of the Russian Academy of Sciences, 100 let Vladivostok Av. 159, 690022, Vladivostok, Russia* **2** *Institute of Bioresources of Nakhchivan Branch of National Academy of Sciences of Azerbaijan, 10 Babak St, AZ 7000, Nakhchivan, Azerbaijan*

Corresponding author: Maxim Yu. Proshchalykin (proshchalikin@biosoil.ru)

Academic editor: R. Yakovlev | Received 11 May 2020 | Accepted 20 June 2020 | Published 23 July 2020

Citation: Proshchalykin MY, Maharramov MM (2020) Additional records of osmiine bees (Hymenoptera: Megachilidae: Osmiini) from Azerbaijan. Acta Biologica Sibirica 6: 33–42. https://doi.org/10.3897/abs.6.e53095

Abstract

Data on 38 species and four subspecies of three genera of the tribe Osmiini (Megachilidae) collected in Nakhchivan Autonomous Republic of Azerbaijan are presented. Of them, 19 species and one subspecies are recorded for the fauna of Azerbaijan for the first time. This paper is based on the material of more than 155 specimens, collected by the authors in June 2019 in 21 localities of the republic. Additional 44 specimens of Osmiini from the Nakhchivan Autonomous Republic stored in the collection of the Institute of Zoology of the National Academy of Sciences of Azerbaijan, Baku have also been studied. Currently, 64 species and four subspecies of osmiine bees are known from this country. This is distinctly less in comparison with the adjacent fauna of Turkey (247), Turkmenistan (110) and Iran (88), but more than understudied faunas of Georgia (31) and Armenia (44). It is assumed that the number of Osmiini species in Azerbaijan may be at least twice as large.

Keywords

Apoidea, bees, fauna, Caucasus, Palaearctic region.

Copyright *Maxim Yu. Proshchalykin, Mahir M. Maharramov.* This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Introduction

The osmiine bees (Megachilidae: Osmiini), which comprise 15 genera and roughly 1200 species worldwide, occur in North America, Africa and Eurasia (Müller 2019). They are especially diverse in mediterranean and xeric climates of southern Africa, southwestern North America and the Palaearctic region. With 10 genera and about 700 species, the Palaearctic osmiine bee fauna is particularly diverse.

The present paper is part of a series of publications dealing with the Osmiini of the territory of the Nakhchivan Autonomous Republic of Azerbaijan (Maharramov 2010; Maharramov et al. 2014; Proshchalykin et al. 2019). Until recently, osmiine bees are one of the least-studied groups occurring in this territory as well as in Azerbaijan. So far, only about 29 species of Osmiini have been recorded from Azerbaijan mainly in taxonomic papers (Müller 2019). But in last two years significant progress has been made towards a better knowledge of the species of osmiine bees from this territory. After the publication of Proshchalykin et al. (2019), the number of known Osmiini species increased to 47.

Based on a comprehensive study of specimens, we here list 38 species and four subspecies of three genera of the tribe Osmiini, with 19 species and one subspecies recorded from Azerbaijan for the first time. Currently, 64 species and four subspecies of osmiine bees are known from this country (Table 1). This paper is a further step towards a better documentation of the species of Osmiini and their distribution in the Palaearctic region and adjacent areas.

This paper is dedicated to memory of our wonderful colleague, Dr. Khalid Aliyev, who recently passed away.

Material and methods

This paper is based on the material (155 specimens) collected in June 2019 in the Nakhchivan Autonomous Republic (Azerbaijan) and currently housed in the Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far Eastern Branch of Russian Academy of Sciences, Vladivostok, Russia (FCBV). Specimens were collected by standard methods using net and numerous yellow pan traps in 21 localities. Additional 44 specimens of Osmiini from the Nakhchivan Autonomous Republic stored in the collection of the Institute of Zoology of the National Academy of Sciences of Azerbaijan, Baku (IZAB) have also been studied.

Taxonomy of Osmiini generally follows Müller (2019). For detailed synonymy and distribution of Osmiini species also see Müller (2019). We have used the following abbreviations for collectors: KA – Kh. Aliyev, MM – M. Maharramov, MP – M. Proshchalykin. New species for Azerbaijan fauna are noted with an asterisk (*). views.

Results

List of species

Genus *Chelostoma* Latreille, 1809

***Chelostoma* (*Chelostoma*) *emarginatum* (Nylander, 1856)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bilav, 39°04'N, 45°52'E, 1460 m, 25.VI.2012, KA (IZAB) – ♂.

***Chelostoma* (*Foveosmia*) *distinctum* (Stöckhert, 1929)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bilav, 39°04'N, 45°52'E, 1460 m, 25.VI.2012, KA (IZAB) – 1 ♀; Julfa, Teyvaz, 39°15'N, 45°46'E, 1645 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

***Chelostoma* (*Foveosmia*) *garrulum* (Warncke, 1991)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Shakhbuz, Kechili, 39°22'N, 45°43'E, 1800 m 14.VIII.2008, MM (IZAB) – 1♀, 3 ♂♂; Julfa, Bashkend, 38°57'N, 45°55'E, 1150 m, 5.VII.2007, MM (IZAB) – 1 ♂; Ordubad, Bilav, 39°04'N, 45°52'E, 1460 m, 25.VI.2012, KA (IZAB) – 1 ♂.

****Chelostoma* (*Gyrodromella*) *orientale* Schletterer, 1890**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, Payiz, 39°26'N, 45°22'E, 1225 m, 11.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

***Chelostoma* (*Gyrodromella*) *rapunculi* (Lepeletier, 1841)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bilav, 39°04'N, 45°52'E, 1460 m, 25.VI.2012, KA (IZAB) – 1 ♀; Ordubad, Aghdara, 39°06'N, 45°54'E, 2000 m, 17.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

Genus *Hoplitis* Klug, 1807

****Hoplitis* (*Alcidamea*) *acuticornis* (Dufour & Perris, 1840)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, Askhabi-Kaf, 45°35'E, 39°13'N, 1250 m, 1.V.2012, KA (IZAB) – 1 ♂; Babek, Yukhari Buzgov, 39°31'N, 45°22'E, 1720 m, 11.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

****Hoplitis* (*Alcidamea*) *eburnea* (Warncke, 1991)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, 3 km NE Sirab, 39°18'N, 45°32'E, 1250 m, 10.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

***Hoplitis* (*Alcidamea*) *fulva* (Eversmann, 1852)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, Nahajir, 39°14′N, 45°35′E, 1163 m, 13.VI.2018, MM (IZAB) – 1 ♂; Babek, Gahab, 39°15′N, 45°31′E, 1045 m, 12.VI.2019, MP, KA, MM (FCBV) – 3 ♀♀, 1 ♂; Kangarli, Garabaglar, 39°25′N, 45°13′E, 1270 m, 13.VI.2019, MP, KA, MM (FCBV) – 1 ♂; Julfa, 5 km N Dize, 39°03′N, 45°45′E, 965 m, 20.VI.2019, MP, KA, MM (FCBV) – 4 ♀♀.

***Hoplitis* (*Alcidamea*) *leucomelana* (Kirby, 1802)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, Gazanchi, 39°13′N, 45°41′E, 1300 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Nakhichevan, 39°13′N, 45°24′E, 905 m, 17-18.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

******Hoplitis* (*Anthocopa*) *bisulca* (Gerstaecker, 1869)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Shakhbuz, Gizil Gishlag, 39°28′N, 45°35′E, 1460 m, 19.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

******Hoplitis* (*Anthocopa*) *grumi* (Morawitz, 1894)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, Yukhari Buzgov, 39°31′N, 45°22′E, 1720 m, 11.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

***Hoplitis* (*Anthocopa*) *perezi* (Ferton, 1895)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Shakhbuz, Zarnatun, 39°31′N, 45°46′E, 1550 m, 14.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Nakhichevan, 39°13′N, 45°24′E, 905 m, 17-18.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

******Hoplitis* (*Anthocopa*) *yermasoyiae asiae* (Tkalců, 1979)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, 38°57′N, 45°37′E, 1700-2000 m, 6.VI.2008, MM (IZAB) – 1 ♀.

***Hoplitis* (*Hoplitis*) *annulata crenulata* (Morawitz, 1871)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Sharur, Akhura, 39°33′N, 45°13′E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 6 ♀♀, 7 ♂♂; Julfa, Teyvaz, 39°15′N, 45°46′E, 1645 m, 15.VI.2019, MP, KA, MM (FCBV) – 2 ♀♀, 1 ♂; Julfa, Milakh, 39°15′N, 45°43′E, 1430 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀, 3 ♂♂; Julfa, Gazanchi, 39°13′N, 45°41′E, 1300 m, 15.VI.2019, MP, KA, MM (FCBV) – 5 ♀♀, 1 ♂.

******Hoplitis* (*Hoplitis*) *flabellifera* (Morice, 1901)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Shakhbuz, Kechili, 39°22′N, 45°43′E, 1800 m, 19.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

******Hoplitis* (*Hoplitis*) *manicata* (Morice, 1901)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bilav, 39°04′N, 45°51′E, 2.VI.2012, MM (IZAB) – 1 ♀; Sharur, Akhura, 39°33′N, 45°13′E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

******Hoplitis* **(*****Hoplitis*****)** ***mutica*** **(Warncke, 1991)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, Goynuk, 39°18'N, 45°40'E, 1680 m, 12.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

******Hoplitis* **(*****Pentadentosmia*****)** ***tringa*** **(Warncke, 1991)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, 3 km NE Sirab, 39°18'N, 45°32'E, 1250 m, 12.VI.2019, MP, KA, MM (FCBV) – 2 ♀♀.

Genus *Osmia* Panzer, 1806

******Osmia* **(*****Allosmia*****)** ***melanura*** **Morawitz, 1871**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, 3 km NE Sirab, 39°18'N, 45°32'E, 1250 m, 10-12.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Babek, Goynuk, 39°18'N, 45°40'E, 1680 m, 12.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Julfa, Teyvaz, 39°15'N, 45°46'E, 1645 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Julfa, Milakh, 39°15'N, 45°43'E, 1430 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Julfa, Gazanchi, 39°13'N, 45°41'E, 1300 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

******Osmia* **(*****Allosmia*****)** ***rufohirta*** **Latreille, 1811**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, Gazanchi, 39°13'N, 45°41'E, 1300 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

Osmia **(*****Erythrosmia*****)** ***andrenoides*** **Spinola, 1808**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Sharur, Akhura, 39°33'N, 45°13'E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Julfa, Gazanchi, 39°13'N, 45°41'E, 1300 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

******Osmia* **(*****Helicosmia*****)** ***aeruginosa*** **Warncke, 1988**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, 3 km NE Sirab, 39°18'N, 45°32'E, 1250 m, 12.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

Osmia **(*****Helicosmia*****)** ***caerulescens*** **(Linnaeus, 1758)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Nyusnyus, 38°57'N, 46°01'E, 1360 m, 26.V.1980, KA (IZAB) – 1 ♂; Ordubad, 38°54'N, 46°01'E, 850 m, 26.VIII.1996, S. Hacryeva (IZAB) – 1 ♀; Julfa, Gyoynuk, 39°07'N, 45°31'E, 900 m 1.VI.2006, MM (IZAB) – 1 ♀; Julfa, Milakh, 39°15'N, 45°43'E, 1430 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Julfa, Gulistan, 38°58'N, 45°36'E, 740 m, 16.VI.2019, MP, KA, MM (FCBV) – 1 ♂; Nakhichevan, 39°13'N, 45°24'E, 905 m, 17-18.VI.2019, MP, KA, MM (FCBV) – 4 ♂♂.

******Osmia* **(*****Helicosmia*****)** ***cinerea*** **Warncke, 1988**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Aghdara, 39°06'N, 45°54'E, 2000 m, 17.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

***Osmia* (*Helicosmia*) *dimidiata* Morawitz, 1870**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, Yukhari Buzgov, 39°31′N, 45°22′E, 1720 m, 11.VI.2019, MP, KA, MM (FCBV) – 1 ♂; Sharur, Akhura, 39°33′N, 45°13′E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 3 ♀♀, 1 ♂.

***Osmia* (*Helicosmia*) *melanogaster* Spinola, 1808**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bist, 39°08′N, 45°52′E, 1500 m, 25.VI.2007, MM (IZAB) – 1 ♀; Babek, Yukhari Buzgov, 39°31′N, 45°22′E, 1720 m, 11.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Babek, Gahab, 39°15′N, 45°31′E, 1045 m, 12.VI.2019, MP, KA, MM (FCBV) – 5 ♀♀; Sharur, Akhura, 39°33′N, 45°13′E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 14 ♀♀; Julfa, Milakh, 39°15′N, 45°43′E, 1430 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Ordubad, Aghdara, 39°06′N, 45°54′E, 2000 m, 17.VI.2019, MP, KA, MM (FCBV) – 3 ♀♀; Shakhbuz, Gomur, 39°27′N, 45°44′E, 1790 m, 18.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Shakhbuz, Kechili, 39°22′N, 45°43′E, 1800 m, 19.VI.2019, MP, KA, MM (FCBV) – 2 ♀♀.

******Osmia* (*Helicosmia*) *saxatilis* Warncke, 1988**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Sharur, Akhura, 39°33′N, 45°13′E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

***Osmia* (*Helicosmia*) *niveata* (Fabricius, 1804)**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, Yukhari Buzgov, 39°31′N, 45°22′E, 1720 m, 11.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

***Osmia* (*Helicosmia*) *signata* Erichson, 1835**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Sharur, Akhura, 39°33′N, 45°13′E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 1 ♂; Julfa, 9 km N Julfa, 39°02′N, 45°36′E, 900 m, 16.VI.2019, MP, KA, MM (FCBV) – 1 ♂.

***Osmia* (*Helicosmia*) *subcornuta* Morawitz, 1875**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bilav, 39°04′N, 45°52′E, 1460 m, 27.IV.2012, KA (IZAB) – 1 ♂.

***Osmia* (*Hemiosmia*) *difficilis* Morawitz, 1875**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Babek, Goynuk, 39°18′N, 45°40′E, 1680 m, 12.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

***Osmia* (*Hoplosmia*) *bidentata* Morawitz, 1876**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Nakhichevan, 39°13′N, 45°24′E, 905 m, 17.VI.2009, MM (IZAB) – 1 ♀; Babek, Gahab, 39°15′N, 45°31′E, 1045 m, 12.VI.2019, MP, KA, MM (FCBV) – 2 ♀♀, 4 ♂♂; Sharur, Akhura, 39°33′N, 45°13′E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 3 ♂♂.

***Osmia* (*Hoplosmia*) *ligurica* Morawitz, 1868**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Sharur, Akhura, 39°33'N, 45°13'E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 5 ♀♀.

******Osmia* (*Hoplosmia*) *scutellaris* Morawitz, 1868**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bist, 39°08'N, 45°52'E, 1500 m, 25.VI.2007, MM (IZAB) – 1 ♀; Shakhbuz, Kechili, 39°22'N, 45°43'E, 1800 m, 14.VIII.2008, MM (IZAB) – 1 ♀.

***Osmia* (*Metallinella*) *brevicornis* (Fabricius, 1798)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Bilav, 39°04'N, 45°52'E, 1460 m, 20.IV.2006, MM (IZAB) – 1 ♀; Shakhbuz, Batabat, 39°32'N, 45°47'E, 2000 m 21.VI.2007, MM (IZAB) – 1 ♂; Nakhichevan, 39°13'N, 45°24'E, 905 m, 17.VI.2009, MM (IZAB) – 4 ♀♀; idem, 30.IV.2012, KA (IZAB) – 1 ♂; Sharur, Akhura, 39°33'N, 45°13'E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 2 ♀♀.

***Osmia* (*Osmia*) *apicata* Smith, 1853**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, 38°57'N, 45°37'E, 1700-2000 m, 6.VI.2008, MM (IZAB) – 1 ♀; Shakhbuz, Zarnatun, 39°31'N, 45°46'E, 1550 m, 14.VI.2019, MP, KA, MM (FCBV) – 2 ♀♀, 2 ♂♂; Julfa, Milakh, 39°15'N, 45°43'E, 1430 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀; Ordubad, Bilav, 39°04'N, 45°52'E, 1460 m, 19.VI.2019, MP, KA, MM (FCBV) – 7 ♂♂.

***Osmia* (*Osmia*) *bicornis globosa* (Scopoli, 1763)**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, 38°57'N, 45°37'E, 1700-2000 m, 6.VI.2008, MM (IZAB) – 1 ♀; Julfa, Arafsa, Khazinadara, 39°19'N, 45°48'E, 1900 m, 15.V.2016, MM (IZAB) – 1 ♀, 2 ♂♂; Ordubad, Bilav, 39°04'N, 45°51'E, 1300 m, 2.VI.2012, MM (IZAB) – 1 ♀; Sharur, Akhura, 39°33'N, 45°13'E, 1640 m, 13.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

***Osmia* (*Osmia*) *cerinthidis* Morawitz, 1876**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, Arafsa, Khazinadara, 39°19'N, 45°48'E, 1900 m, 15.V.2016, MM (IZAB) – 3 ♂♂; Babek, Nakhchivanchay, 39°14'N, 45°26'E, 900 m, 19.V.2016, MM (IZAB) – 1 ♂; Ordubad, Aghdara, 39°06'N, 45°54'E, 2000 m, 17.VI.2019, MP, KA, MM (FCBV) – 2 ♀♀.

******Osmia* (*Osmia*) *nigrohirta* Friese, 1899**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Aghdara, 39°06'N, 45°54'E, 2000 m, 17.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

***Osmia* (*Pyrosmia*) *cephalotes longiceps* Morawitz, 1876**
Material. Azerbaijan (Nakhchivan Autonomous Republic): Julfa, Milakh, 39°15'N, 45°43'E, 1430 m, 15.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

***_Osmia_ (_Pyrosmia_) _cyanoxantha_ Pérez, 1879**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Ordubad, Aghdara, 39°06'N, 45°54'E, 2000 m, 17.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

***_Osmia_ (_Pyrosmia_) _forticornis_ Zanden, 1989**

Material. Azerbaijan (Nakhchivan Autonomous Republic): Shakhbuz, Gomur, 39°27'N, 45°44'E, 1790 m, 18.VI.2019, MP, KA, MM (FCBV) – 1 ♀.

Table 1. List of osmiine bees of Azerbaijan.

N	Species	Reference date				
		I	II	III	IV	V
1	*Chelostoma distinctum* (Stöckhert, 1929)		+	+		+
2	*Chelostoma emarginatum* (Nylander, 1856)		+	+		+
3	*Chelostoma garrulum* (Warncke, 1991)				+	+
4	*Chelostoma mocsaryi* Schletterer, 1889	+				
5	*Chelostoma orientale* Schletterer, 1890					+
6	*Chelostoma rapunculi* (Lepeletier, 1841)	+	+	+		+
7	*Heriades crenulata* Nylander, 1856	+				
8	*Heriades truncorum* (Linnaeus, 1758)	+				
9	*Hoplitis acuticornis* (Dufour & Perris, 1840)					+
10	*Hoplitis adunca* (Panzer, 1798)	+				
11	*Hoplitis agis* (Benoist, 1929)		+	+		
12	*Hoplitis annulata crenulata* (Morawitz, 1871)		+	+		+
13	*Hoplitis bisulca* (Gerstaecker, 1869)					+
14	*Hoplitis carinata* (Stanek, 1969)		+	+		
15	*Hoplitis caucasica* (Friese, 1920)		+	+		
16	*Hoplitis curvipes* (Morawitz, 1871)			+		
17	*Hoplitis dalmatica* (Morawitz, 1871)				+	
18	*Hoplitis eburnea* (Warncke, 1991)					+
19	*Hoplitis fasciculata* (Alfken, 1934)				+	
20	*Hoplitis flabellifera* (Morice, 1901)					+
21	*Hoplitis fulva* (Eversmann, 1852)		+	+		+
22	*Hoplitis grumi* (Morawitz, 1894)					+
23	*Hoplitis jakovlevi* (Radoszkowski, 1874)	+	+			
24	*Hoplitis laevifrons* (Morawitz, 1872)	+				
25	*Hoplitis leucomelana* (Kirby, 1802)	+	+	+		+
26	*Hoplitis manicata* (Morice, 1901)					+
27	*Hoplitis mollis* Tkalců, 2000				+	
28	*Hoplitis mutica* (Warncke, 1991)					+
29	*Hoplitis perezi* (Ferton, 1895)				+	+
30	*Hoplitis tridentata* (Dufour & Perris, 1840)				+	
31	*Hoplitis tringa* (Warncke, 1991)					+

N	Species	Reference date				
		I	II	III	IV	V
32	*Hoplitis verruciventris* (Morawitz, 1886)		+	+		
33	*Hoplitis yermasoyiae asiae* (Tkalců, 1979)					+
34	*Osmia aeruginosa* Warncke, 1988					+
35	*Osmia andrenoides* Spinola, 1808				+	+
36	*Osmia apicata* Smith, 1853	+				+
37	*Osmia aurulenta* Panzer, 1799	+				
38	*Osmia bicornis globosa* (Scopoli, 1763)				+	+
39	*Osmia bidentata* Morawitz, 1876	+				+
40	*Osmia brevicornis* (Fabricius, 1798)	+	+			+
41	*Osmia caerulescens* (Linnaeus, 1758)	+	+	+		+
42	*Osmia cephalotes longiceps* Morawitz, 1876		+	+		+
43	*Osmia cerinthidis* Morawitz, 1876	+				+
44	*Osmia cinerea* Warncke, 1988					+
45	*Osmia cornuta quasirufa* Peters, 1978				+	
46	*Osmia cyanoxantha* Pérez, 1879					+
47	*Osmia difficilis* Morawitz, 1875				+	+
48	*Osmia dimidiata* Morawitz, 1870				+	+
49	*Osmia distinguenda* (Tkalců, 1974)				+	
50	*Osmia dives* Mocsary, 1877				+	
51	*Osmia forticornis* Zanden, 1989					+
52	*Osmia hellados* Zanden, 1984		+	+		
53	*Osmia labialis* Pérez, 1879				+	
54	*Osmia leaiana* (Kirby, 1802)	+				
55	*Osmia ligurica* Morawitz, 1868					+
56	*Osmia melanogaster* Spinola, 1808				+	+
57	*Osmia melanura* Morawitz, 1871					+
58	*Osmia mustelina* Gerstaecker, 1869				+	
59	*Osmia nana* Morawitz, 1874	+				
60	*Osmia nigrohirta* Friese, 1899					+
61	*Osmia niveata* (Fabricius, 1804)			+		+
62	*Osmia parietina* Curtis, 1828	+				
63	*Osmia rufohirta* Latreille, 1811					+
64	*Osmia saxatilis* Warncke, 1988					+
65	*Osmia scutellaris* Morawitz, 1868					+
66	*Osmia signata* Erichson, 1835				+	+
67	*Osmia subcornuta* Morawitz, 1875		+	+		+
68	*Osmia versicolor* Latreille, 1811				+	
	Total:	17*	16	16	18	44

References data source: I – Maharramov et al. 2014; II – Ascher & Pickering 2019; III – Müller 2019; IV – Proshchalykin et al. 2019; V – current data. * the real number of Osmiini species from Maharramov et al. 2014 is 22, but some of the records are doubtful (see Proshchalykin et al. 2019 for detail).

Acknowledgements

We are grateful to A. Müller (Zurich, Switzerland) for help with identification of Osmiini specimens and A.B. Bayramov (Nakhchivan, Azerbaijan) for help during field work in Nakhchivan Autonomous Republic in 2019. We also thank two anonymous reviewers for their comments and suggestions to streamline and improve the manuscript.

References

Ascher JS, Pickering J (2019) Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: *Anthophila*). http://www.discoverlife.org/mp/20q?guide= Apoidea_species (accessed 24 January 2020).

Maharramov MM (2010) Fauna of the family Megachilidae (Insecta, Hymenoptera, Apoidea) of the Nakhchivan Autonomous Republic. Proceedings of Azerbaijan National Academy of Sciences. Biological Sciences 1/2: 87–93. [in Azerbaijani]

Maharramov MM, Aliyev KhA, Bayramov AB (2014) The fauna and ecology of bees of the family Megachilidae (Hymenoptera: Apoidea) in Nakhchivan Autonomous Republic of Azerbaijan. Caucasian Entomological Bulletin 10(1): 143–150. [in Russian]

Müller A (2019) Palaearctic Osmiine Bees, ETH Zürich. http://blogs.ethz.ch/osmiini (accessed 24 January 2020).

Proshchalykin MYu, Maharramov MM, Aliyev KhA (2019) New data on the tribe Osmiini (Hymenoptera: Megachilidae) from Azerbaijan. Far Eastern Entomologist 383: 12–20. https://doi.org/10.25221/fee.383.3